Successful Resection of a Cervical Pregnancy with Original Diagnosis of Bladder Wall Invasion and Rupture Potential

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SUMMARY

Objective: Cervical pregnancy is a rare life-threatening form of ectopic pregnancy. In the past, hysterectomy was often the only choice available because of profuse hemorrhage that accompanied the attempts of removal of the cervical pregnancy.

Case Report: We present a case of a successful surgical resection of a cervical pregnancy. Diagnosis of a viable cervical pregnancy was made at 9 weeks by ultrasound. Acute abdominal pain, massive vaginal bleeding, and impending shock occurred suddenly in this patient. In order to preserve her future fertility, we used a series of modified procedures, step-by-step, to minimize and control acute hemorrhaging, including transient ligation of the cervicovaginal branches of the uterine vessels with an 18-Fr Foley catheter, vasopressin use, resection of the ectopic pregnancy mass, compression using a 24-Fr Foley catheter, and finally, wound closure. Intraoperative blood loss was less than 400 mL. This treatment was successful, with resumption of normal menstrual cycles and a normal transvaginal ultrasonographic appearance of the cervical canal documented 3 months after the initial diagnosis.

Conclusion: The use of modified surgical procedures, step-by-step, is a good alternative to total hysterectomy for managing cervical pregnancies that require urgent attention. [*Taiwan J Obstet Gynecol* 2007;46(3):272–275]

Key Words: cervical pregnancy, conservative surgery

Introduction

Cervical pregnancy is a rare life-threatening form of ectopic pregnancy [1–9]. In the past, hysterectomy was often the only choice available because of profuse hemorrhage that accompanied the attempts of removal of the cervical pregnancy. Improved sonographic techniques have allowed for earlier diagnosis and successful attempts at conservative treatments [1–3]. Surgical techniques are generally applied only when chemotherapy fails or in emergency conditions of life-threatening acute hemorrhage [4].

In this report, we describe a case of cervical pregnancy with original diagnosis of bladder wall invasion and rupture potential treated surgically with uterine preservation. This approach should be considered when cervical pregnancy that needs surgical intervention is diagnosed.

Case Report

A 23-year-old woman, gravida 5, para 2, with two previous cesarean sections and two dilation and curettage procedures, was referred to our hospital at 9 weeks and 2 days of gestation, after being diagnosed with cervical pregnancy. Her past history revealed a missed menstrual cycle about 2 months prior to the referral. She had

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Figure 1. Transvaginal sagittal sonographic scan showing an empty uterine cavity with a dilated cervical canal containing the gestational sac, crown–rump length of 21.1 cm, and positive fetal cardiac activity.

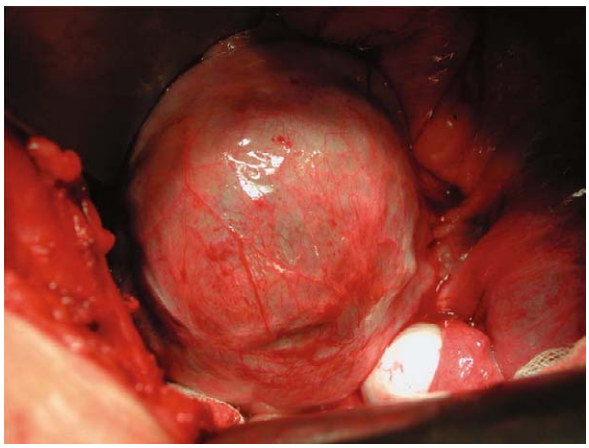

Figure 2. Conception product about 6 × 5 cm in size was covered by thin uterus myometrium and serosa, occupying the lower cervical position without bladder wall invasion.

visited a local clinic for help and was informed of the lower uterine segment pregnancy. After that, she returned to normal daily activities, and had no complaints of either pain or vaginal bleeding. About one week before the visit, a transvaginal sonographic scan was done again, which disclosed cervical pregnancy (Figure 1). As it was a high-risk pregnancy, she was referred to our hospital for further management.

At our hospital, a transvaginal sonographic scan was also performed, giving the impression of a cervical pregnancy with placenta attached to the anterior thin uterus wall (< 0.2 cm) and bladder wall invasion. Gestational sac rupture with massive hemorrhage was considered soon after. Later, the patient was thoroughly informed about her condition, the possible complications, and therapeutic approaches. She elected to undergo resection of the cervical gestational sac with transabdominal approach to prevent uterus rupture and preserve the intrauterine pregnancy. She was also aware of the possibility of an emergency hysterectomy in the case of intractable bleeding.

The patient and operating theater were prepared for a possible hysterectomy with general anesthesia. After the abdominal cavity was exposed, a soft mass (conception product) about 6 × 5 cm that covered by thin uterus myometrium and serosa was noted at the lower anterior uterus wall near the cervix (Figure 2). The bladder wall was not invaded, and the other part of the uterus was intact. Vasopressin (20 U/mL) diluted 1:80 in normal saline was injected into the uterus around the gestational sac. The broad ligament was punched with a small hole near the uterus neck, and an 18-Fr Foley catheter was coiled in the uterus neck through the small hole. To transiently ligate the cervicovaginal branches of the uterine arteries, the Foley catheter was knotted.

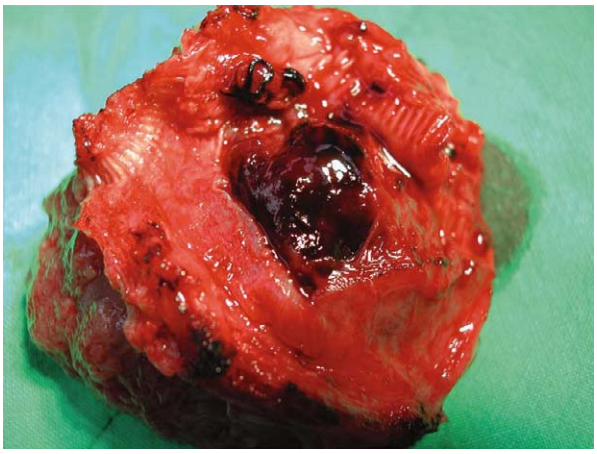

Figure 3. The removed conception product was about 5 × 6 cm. Histologic examination later disclosed a uterus cervix with an embryonic sac.

Then, the resection was done from the upper margin to the lower part of the sac. The bleeding was checked and stanched with a Dexon tie during the resection.

The conception product was resected (Figure 3), and the residual gestational tissue was removed with curettage. A 10-cm segment of the 18-Fr Foley catheter was inserted vertically from the opened uterus cavity to the cervical canal to maintain the patency (Figure 4). Subsequently, the endometrium was sutured with catgut and the myometrium with Dexon layer by layer (Figure 5). The operation took 3 hours; 2 units of packed red blood cells were transfused, and about 250 mL of blood was lost.

The postoperative course of recovery was uneventful. There was little vaginal bleeding, and the inserted Foley catheter in the uterus was removed on the third postoperative day. Histologic examination of the removed material showed chorionic villi and decidual tissue.

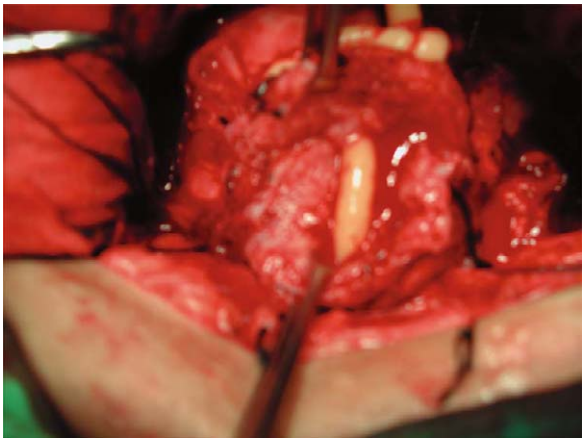

Figure 4. A 10-cm 18-Fr Foley catheter that was inserted into the uterus cavity connected the opened cervix after the resection of the conception product. The upper yellow horizontal band is the Foley catheter used for transient ligation of the cervicovaginal branches of uterine arteries.

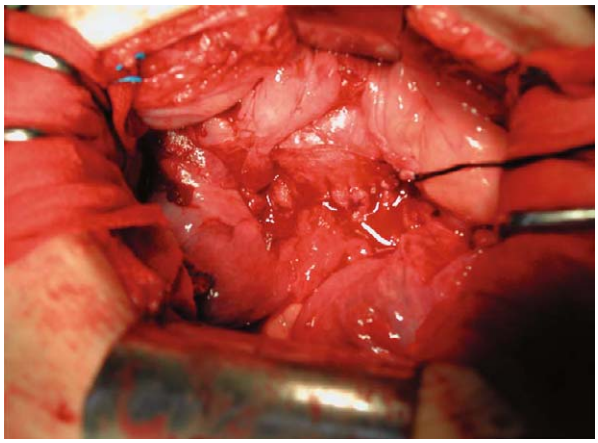

Figure 5. The opened uterus cavity was remodeled by suturing the endometrium and myometrium layer by layer.

The patient was discharged in a good condition on the sixth postoperative day.

Discussion

Cervical pregnancy is a serious complication of pregnancy with a rare incidence of one per 8,628 pregnancies [10]. Its prevalence may be increased owing to damage of the uterine endometrium [11], previous surgery of the lower uterus, such as cesarean section, and inflammatory condition of the cervix and uterus. Treatment of cervical pregnancy depends upon the timing of diagnosis of cervical pregnancy and desire to preserve further fertility. Sonographic techniques have allowed for earlier diagnosis, and the diagnostic criteria are as follows. First, there is no evidence of an intrauterine pregnancy. Second, the cervix is distended, and the uterus is hourglass-shaped. Third, there is conceptal or placental tissue in the cervix. Fourth, internal os of the cervix is closed [10]. Various conservative surgical and medical management options have been reported [10]. These include chemotherapy, cervical cerclage, hypogastric iliac artery ligation and arterial embolization, ultrasound-guided feticidal injection, and hysteroscopic resection [5–10, 12–15]. Medical management has been associated with a significantly lower hysterectomy rate (2%) as compared with hysterectomy rate (15%) in the conservative surgical group [16]. However, surgical techniques are generally applied when chemotherapy fails or in emergency conditions of life-threatening acute hemorrhage.

In previous reports, transvaginal suture ligation of the cervicovaginal branches of uterine arteries [17] and intracervical injection of vasopressin [18] were used for treatment of cervical pregnancy. In our case, to prevent and control the acute hemorrhage or excess blood loss, modified ligation of the cervicovaginal branches of uterine arteries using an 18-Fr Foley catheter was performed to augment the effect of vasopressin.

Diagnosis of cervical pregnancy at an early stage by using ultrasound and conservative approaches in its treatment has reduced morbidity and mortality rates significantly, consequently helping the patient preserve the future fertility. If surgical intervention is needed, our experience suggests that this method might be a useful alternative for treating cervical pregnancy with imminent rupture.

Acknowledgments

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